

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions and listings of claims in the application:

LISTING OF CLAIMS:

1. (currently amended): A method of producing maraging steel and control the growth of oxide and titanium nitride inclusions in the maraging steel by the addition of a controlled amount of Mg added to a consumable electrode which is subjected to vacuum arc remelting, the maraging steel exhibiting improved fatigue strength containing from not less than 0.3 mass% to not more than 2.0 mass% of Ti, and from more than zero to and less than 15ppm of Mg, less than 10 ppm oxygen and less than 15 ppm nitrogen which method comprises:

producing a consumable electrode wherein the consumable electrode contains oxide inclusions and titanium nitride inclusions and the consumable electrode is subjected to vacuum arc remelting by casting a molten steel which has been melted under vacuum, the consumable electrode containing not less than 5ppm of Mg, and non-metallic inclusions comprising oxide inclusions and titanium nitride inclusions, which titanium nitride inclusions have nitrides having a nucleus of MgO, wherein the total of all Mg present is not less than 5 ppm; and

subsequently subjecting the consumable electrode to vacuum arc remelting to control the growth of the oxide inclusions and the titanium nitride inclusions, whereby the titanium nitride ~~MgO~~ type non metallic inclusions and the nucleus of MgO in the titanium nitride inclusions ~~nitrides~~ are decomposed so that the Mg content in the maraging steel which is

produced by a product of the vacuum arc remelting is reduced from the Mg content in the consumable electrode due to vaporization so that the Mg content in the maraging steel is less than the Mg content in the consumable electrode, wherein the maraging steel contains the titanium nitride inclusions having a size of not more than 15 μm in maximum length and the oxide inclusions having a size of not more than 20 μm in maximum length, and wherein

the oxide inclusions comprise spinel form inclusions and alumina inclusions in which a content of the spinel form inclusions having a size of not less than 10 μm in length divided by a total content of the spinel form inclusions having a size of not less than 10 μm in length plus the alumina inclusions having a size of not less than 10 μm in length is more than 0.33.

2. (previously presented): A method of producing maraging steel according to claim 1, wherein the molten steel for casting has been produced by a vacuum induction melting process.

Claim 3. (canceled).

4. (previously presented): A method of producing maraging steel according to claim 1, wherein a maraging steel product obtained by the vacuum arc remelting is subjected to plastic working to produce a thin strip having a thickness of not more than 0.5 mm.

5. (currently amended): Maraging steel comprising, by mass, at least, from not less than 0.3% to not more than 2.0% Ti, from more than zero to less than 15ppm of Mg, less than 10ppm oxygen and less than 15ppm nitrogen, wherein

the maraging steel contains the titanium nitride inclusions having a size of not more than 15 μm in maximum length and the oxide inclusions having a size of not more than 20 μm in maximum length, and wherein

the oxide inclusions comprise spinel form inclusions and alumina inclusions in which a content of the spinel form inclusions having a size of not less than 10 μm in length divided by a total content of the spinel form inclusions having a size of not less than 10 μm in length plus the alumina inclusions having a size of not less than 10 μm in length is more than 0.33.

6. (currently amended): Maraging steel according to claim 5, consisting essentially of, by mass, not more than 0.01% C (carbon), 8.0 to 22.0% Ni, 5.0 to 20.0% Co, 2.0 to 9.0% Mo, from not less than 0.3% to not more than 2.0% Ti, not more than 1.7% Al, from more than zero to less than 10 ppm Mg, less than 10ppm oxygen, less than 15ppm nitrogen, and the balance of Fe and incidental impurities.

7. (original): A thin strip which is made from maraging steel as defined in claim 5, and which has a thickness of not more than 0.5 mm.

8. (original): A thin strip which is made from maraging steel as defined in claim 6, and which has a thickness of not more than 0.5 mm.

9. (cancelled):

10. (previously presented): The method according to claim 1, wherein a thin strip having a thickness of not more than 0.5mm is produced by plastic working the maraging steel after the vacuum arc remelting.

11. (currently amended): The method according to claim 4, wherein the thin strip having a thickness of not more than 0.5 mm is a component of a continuously variable transmissiontransmission.

12. (currently amended): The method according to claim 10, wherein the thin strip having a thickness of not more than 0.5 mm is a component of a continuously variable transmissiontransmission.

13. (currently amended): A component of a continuously variable transmissiontransmission, which is made of the thin strip having a thickness of not more than 0.5 mm as defined in claim 7.

14. (previously presented): A component of continuously variable transmissions, which is made of the thin strip having a thickness of not more than 0.5 mm as defined in claim 8.

Claim 15. (canceled).

Claim 16. (canceled).

17 (new): A method of producing maraging steel according to claim 1, wherein the amount of Mg is from more than 0 to less than 10 ppm in the maraging steel and wherein the consumable electrode contains from 10 to 150 ppm Mg.

18. (new): A method of producing maraging steel according to claim 1, wherein the consumable electrode contains from 5 to not more than 300 ppm Mg.

19. (new): A method of producing maraging steel according to claim 1, wherein the consumable electrode contains from 5 to not more than 250 ppm Mg.

20. (new): A method of producing maraging steel according to claim 1, wherein the maraging steel consists essentially of, by mass, not more than 0.01% C (carbon), 8.0 to 22.0% Ni, 5.0 to 20.0% Co, 2.0 to 9.0% Mo, from not less than 0.3% to not more than 2.0% Ti, not more than 1.7% Al, from more than zero to less than 10 ppm Mg, less than 10ppm oxygen, less than 15ppm nitrogen, and the balance of Fe and incidental impurities.

21. (new): A method of producing maraging steel according to claim 17, wherein the maraging steel compounds by mass from more 0 to 5 ppm Mg.

22. (new): Maraging steel according to claim 5, wherein the maraging steel comprises by mass, from 0 to 5 ppm Mg.

23. (new): A method according to claim 17, wherein a maraging steel product obtained by the vacuum arc remelting is subjected to plastic working to produce a thin strip having a thickness of not more than 0.5 mm.

24. (new): A method according to claim 23, wherein the thin strip having a thickness of not more than 0.5 mm is a component of a continuously variable transmission.